



Data and Privacy File Guides

iCloud: Known Networks

June 2019

File name KnownNetworks.xml

File description This file contains information about the WiFi networks to which a user has connected from one of their devices, except the passwords, which are stored in a way that Apple cannot read.

Why Apple keeps this information Apple retains this information in order to sync it across the user's devices and to debug WiFi connection issues.

Field Name	Details
KnownNetworks	The WiFi networks to which the user has connected from one of their devices signed into the same iCloud account
AP_MODE	Operation mode of the network: infrastructure, or ad-hoc
BSSID	The Base Service Set Identifier, which is the human readable name of the network.
GTKSA_REPLAY_COUNTERS	RSN Security Information Element as defined in 802.11i standard
GUESSED_2ghzBSSID1	Other Base Service Set Identifier operating under the same network name (ESSID)
GUESSED_2ghzBSSID2	Other Base Service Set Identifier operating under the same network name (ESSID)
GUESSED_2ghzBSSID3	Other Base Service Set Identifier operating under the same network name (ESSID)
GUESSED_2ghzBSSID4	Other Base Service Set Identifier operating under the same network name (ESSID)
IE_KEY_RSN_AUTHSELS	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.

Field Name	Details
IE_KEY_RSN_CAPS	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
IE_KEY_RSN_MCIPHER	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
IE_KEY_RSN_UCIPHERS	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
IE_KEY_RSN_VERSION	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
IE_KEY_WPA_AUTHSELS	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
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IS_NETWORK_APPBASED	Whether the network was installed on the device by an app
IS_NETWORK_CAPTIVE	Whether the network is captive (requires user sign-in through web portal)
IS_NETWORK_CONFIGURED	Whether the network is installed using .mobileconfig profile
IS_NETWORK_CUSTOMIZED	Whether the network has custom IP configuration settings (DNS, proxy, etc.)
IS_NETWORK_EAP	Whether the network security is 802.1X based
IS_NETWORK_EXPIRABLE	Whether the network has an expiry date (usually applicable to app-based network)
MFP_CAPABLE	Whether 802.11w is enabled by the access point
MFP_REQUIRED	Whether 802.11w is required by the access point
NO_PAIRWISE	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
PRE_AUTH	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.

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PTKSA_REPLAY_COUNTERS	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
RSN_CAPABILITIES	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
RSN_IE	IEEE 802.11i standardizes WiFi encryption protocols including Information Elements (IEs) that are transmitted by WiFi network regarding their security configuration. This field is synced to allow the iCloud WiFi Network Syncing feature to work and is defined in the IEEE 802.11i standard. The actual password is synced using iCloud Keychain in a way that Apple cannot read.
SHARE_MODE	Whether the network was joined manually or shared by another device
SSID_STR	Extended Service Set Identifier (more commonly the name of the network)
USER_ROLE	If network is shared, the role of the user (granter of the network or recipient)
UserDirected	Whether the network is hidden
WEP	Whether the network security is WEP based
WEPTYPE	If network security is WEP based, whether it is using open or shared authentication
WEP_AUTH_Flags	If network security is WEP based, whether it is WEP-40 or WEP-104
WPA_IE	WPA Security Information Element as defined in 802.11i standard
added_at	The time at which the network was added to the device
added_by	If added by an application, the application identifier. WiFi Settings identifier otherwise.
added_by_WCSE_ver	The version number of WiFi network syncing software.

Field Name	Details
added_by_os_ver	The operating system version running the WiFi network syncing software
enabled	Whether a network should be auto-joined